

WHAT IS CLAIMED IS:

1. A lithography system which forms a predetermined development pattern on a substrate applied with a photosensitive material, the lithography system comprising:
 - an applying apparatus which applies the photosensitive material to the substrate;
 - an exposure apparatus which exposes the substrate applied with the photosensitive material;
 - a developing apparatus which develops the exposed photosensitive material;
 - a control system which controls the exposure apparatus so that the substrate, to which the photosensitive material has been applied by the applying apparatus, is exposed with a light beam via a predetermined evaluating pattern by the aid of the exposure apparatus;
 - a sensor which measures a state of a development pattern of the photosensitive material obtained by developing the substrate exposed by the exposure apparatus by using the developing apparatus; and
 - a judging system which judges one of: (i) a characteristic of the applying apparatus, (ii) a characteristic of the exposure apparatus, and (iii) a characteristic of the developing apparatus which affect the development pattern respectively, independently from the other characteristics, on the basis of measurement information obtained by the sensor.
2. The lithography system according to claim 1, wherein the sensor measures at least one of uneven application of the photosensitive material, uneven development, and an image formation characteristic of the exposure apparatus.
3. The lithography system according to claim 2, wherein the judging system compares the one characteristic with an expected characteristic.
4. The lithography system according to claim 3, wherein the exposure apparatus includes a projection system which projects an image of the evaluating pattern onto the

substrate and a field diaphragm which restricts an illumination field for the evaluating pattern illuminated by the projection system, and the control system controls the field diaphragm depending on the characteristic to be judged.

5. The lithography system according to claim 1, wherein the sensor is provided on the exposure apparatus.

6. The lithography system according to claim 1, further comprising a transport system which transports the substrate.

7. The lithography system according to claim 1, wherein the evaluating pattern includes patterns which measure uneven application of the photosensitive material, uneven development, and an image formation characteristic of the exposure apparatus respectively.

8. An exposure apparatus which exposes a substrate applied with a photosensitive material with a light beam via a mask, the exposure apparatus comprising:

an illumination system which illuminates the mask;

a substrate stage which positions the substrate;

a variable field diaphragm which changes a size of an illumination area illuminated by the illumination system;

a first sensor which measures a physical quantity corresponding to a shape of a pattern of the photosensitive material after development of the substrate on the substrate stage;

a second sensor which measures a position of the pattern of the photosensitive material after the development of the substrate on the substrate stage; and

a judging system which evaluates a state of the photosensitive material on the substrate by using results of the detection performed by the first sensor and the second sensor.

9. The exposure apparatus according to claim 8, further comprising a projection system which projects an illumination light beam from the illumination system onto the

substrate, wherein the judging system evaluates an image formation characteristic of the projection system by using at least one of the first sensor and the second sensor.

10. The exposure apparatus according to claim 8, wherein the physical quantity is a thickness of the photosensitive material, and the state of the photosensitive material includes uneven application of the photosensitive material and uneven development.

11. The exposure apparatus according to claim 9, further comprising a control system which controls the variable field diaphragm, wherein the control system makes control such that the variable field diaphragm is narrowed when the state of the photosensitive material on the substrate is evaluated as compared with when the image formation characteristic of the projection system is observed.

12. The exposure apparatus according to claim 9, wherein the second sensor is also used to execute alignment for the substrate with respect to the illumination light beam from the projection system.